BACKGROUND

Tucson Electric Power Company (TEP) has applied to the U.S. Department of Energy (DOE) for a Presidential Permit to construct and operate a double-circuit, 345,000-volt (345-kV) electric transmission line across the United States border with Mexico. Under Executive Order (EO) 10485 of September 3, 1953, as amended by EO 12038 of February 3, 1978, a Presidential Permit is required to construct, connect, operate, or maintain facilities at the U.S. international border for the transmission of electric energy between the United States and a foreign country. DOE has determined that the issuance of a Presidential Permit to TEP for the proposed project would constitute a major Federal action that may have a significant impact on the environment within the meaning of the *National Environmental Policy Act* of 1969 (NEPA) 42 United States Code (U.S.C.) §4321 et seq. For this reason, DOE has prepared this Draft Environmental Impact Statement (EIS) to evaluate potential environmental impacts from the proposed Federal action (granting a Presidential Permit for the proposed transmission facilities) and reasonable alternatives, including the No Action Alternative.

This EIS was prepared in accordance with Section 102(2)(c) of NEPA, Council of Environmental Quality (CEQ) regulations (40 *Code of Federal Regulations* [CFR] 1500-1508), and DOE NEPA Implementing Procedures (10 CFR 1021). DOE is the lead Federal Agency, as defined by 40 CFR 1501.5. The U.S. Department of Agriculture Forest Service (USFS), the Bureau of Land Management (BLM) of the U.S. Department of the Interior, and the U.S. Section of the International Boundary and Water Commission, U.S. and Mexico (USIBWC), are cooperating agencies. Each of these organizations will use the EIS for its own NEPA purposes, as described in the Federal Agencies' Purpose and Need and Authorizing Actions section of this summary.

NEPA requires Federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. To meet this requirement, Federal agencies prepare a detailed statement known as an EIS for actions that may have a significant impact on the environment. As part of the NEPA process, the preparation of an EIS includes two formal opportunities for public input: (1) the public scoping period, and (2) the Draft EIS review period, both of which are described further in the Public Participation section of this summary. Following the Draft EIS review period of at least 45 days (that must include at least one public hearing), a lead agency, in coordination with any cooperating agencies, will prepare a Final EIS that will respond to oral and written comments received during public review of the Draft EIS. Other environmental review requirements may also be implemented through the NEPA process. In the case of the proposed project, other environmental review requirements implemented through NEPA include a Floodplains and Wetlands Assessment, in accordance with EO 11988, *Floodplain Managemen*t and EO 11990, *Protection of Wetland*s; *Clean Air Act* Conformity requirements, threatened and endangered species consultation required under the *Endangered Species Act* (ESA), and consultation under the *National Historic Preservation Act* (NHPA).

PROPOSED ACTION AND ALTERNATIVES

The 345-kV double-circuit transmission line would consist of twelve transmission line wires, or conductors, and two neutral ground wires that would provide both lightning protection and fiber optic communications, on a single set of support structures. The transmission line would originate at TEP's existing South Substation (which TEP would expand), in the vicinity of Sahuarita, Arizona, and interconnect with the Citizens Communications (Citizens) system at a Gateway Substation that TEP would construct west of Nogales, Arizona. The double-circuit transmission line would continue from the Gateway Substation south to cross the U.S.-Mexico border and extend approximately 60 miles (mi) (98 kilometers [km]) into the Sonoran region of Mexico, connecting with the Comisión Federal de Electricidad (CFE, the national electric utility of Mexico) at CFE's Santa Ana Substation.

Figure S–1 shows the overall proposed project location, and Figure S–2 shows the three alternative proposed project study corridors (the Western Corridor, Central Corridor, and Crossover Corridor) under analysis.

The alternatives developed for the proposed project focus on alternative routes to interconnect TEP's South Substation with the proposed Gateway Substation. TEP's evaluation of interconnection schemes, scoping comments, and discussions with DOE resulted in three potentially viable alternative corridors for transmission interconnection in southern Arizona: the Western Corridor (the applicant's Preferred Alternative), the Central Corridor, and the Crossover Corridor. The three corridors overlap each other in certain segments, as shown in Figure S–2. The Crossover Corridor was included for analysis in this EIS based on public and tribal input received during the public scoping period and tribal consultations. To facilitate a thorough, specific evaluation of the existing environment and potential environmental impacts of the proposed project, TEP agreed to define a 0.25-mi (0.40-km) wide study corridor for each alternative, within which the 125-ft (38-m) wide transmission line right-of-way (ROW) would be sited. Another alternative, the Eastern Corridor, originally proposed by TEP, was eliminated from further analysis as a reasonable alternative in this EIS at TEP's request, for reasons of reliability, constructability, existing encroachment into the ROW, and visual impacts.

Following the issuance of a Record of Decision (ROD) by the lead and cooperating agencies, the precise siting of the transmission line ROW within the selected study corridor would be based on further engineering evaluation and mitigation of potential impacts on cultural, paleontological, visual, and ecological resources, including provisions of mitigation agreements with Federal, state, and local agencies (with tribal input on Federal mitigation agreements).

NEPA requires the identification of the agency's preferred alternative or alternatives in a Draft EIS if one or more exists, or, if one does not yet exist at the draft stage, in the Final EIS (40 CFR Part 1502.14[e]). On July 10, 2001, DOE reported that TEP's Preferred Alternative is the Western Corridor (66 FR 35950). In light of TEP's preference and the Arizona Corporation Commission's (ACC) decision to site TEP's proposed line along the Western Corridor, DOE has decided to identify the Western Corridor as DOE's preferred alternative at this time. DOE welcomes comments on this designation. The cooperating agencies have not designated their preferred alternatives at this draft stage of the EIS review, but each will do so in the Final EIS. Each agency is authorized to select its own preferred alternative.

The expansion to the existing South Substation, and the construction of the Gateway Substation and fiber-optic regeneration site would be the same for each of the three proposed corridors. The South Substation in Sahuarita would be upgraded and expanded to provide interconnection between a new TEP 345-kV transmission line and the new Gateway Substation west of Nogales. The South Substation would be expanded by an estimated 1.3 acres (0.53 hectares [ha]) by moving the fenceline 100 ft (30 m) to the east to add a switching device that would connect to the proposed transmission line.

The new Gateway Substation would include a 345-kV to 115-kV power transformer to provide power to the local area. The new Gateway Substation would be constructed within a developed industrial park north of Mariposa Road (State Route 189), an estimated 0.5 mi (0.8 km) east of the Coronado National Forest boundary (Northeast ¼ Section 12, Township 24 South, Range 13 East). The TEP portion of the site (the area that would be graded) is an estimated 18 acres (7.3 ha) and is within the City of Nogales, Arizona. TEP has purchased the substation site and preliminary construction activities have been completed.

The proposed project may include the siting of a fiber-optic regeneration station, if required to amplify and condition the signal. The precise location of this facility has not been determined. However, it would likely be located in the area of Township 18 South, Range 12 East, approximately 10 mi (16 km)

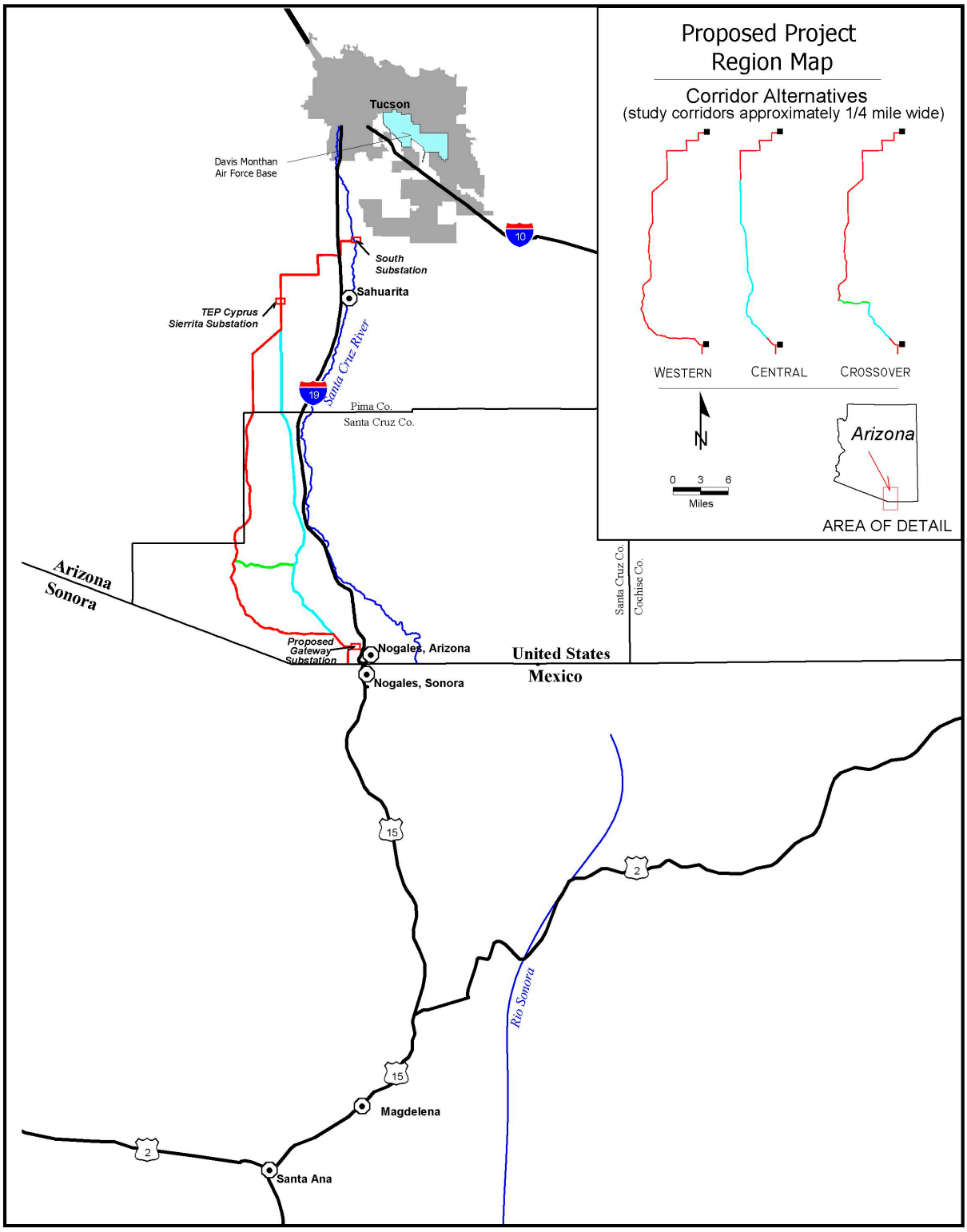

Figure S–1. Proposed Project Region Map.

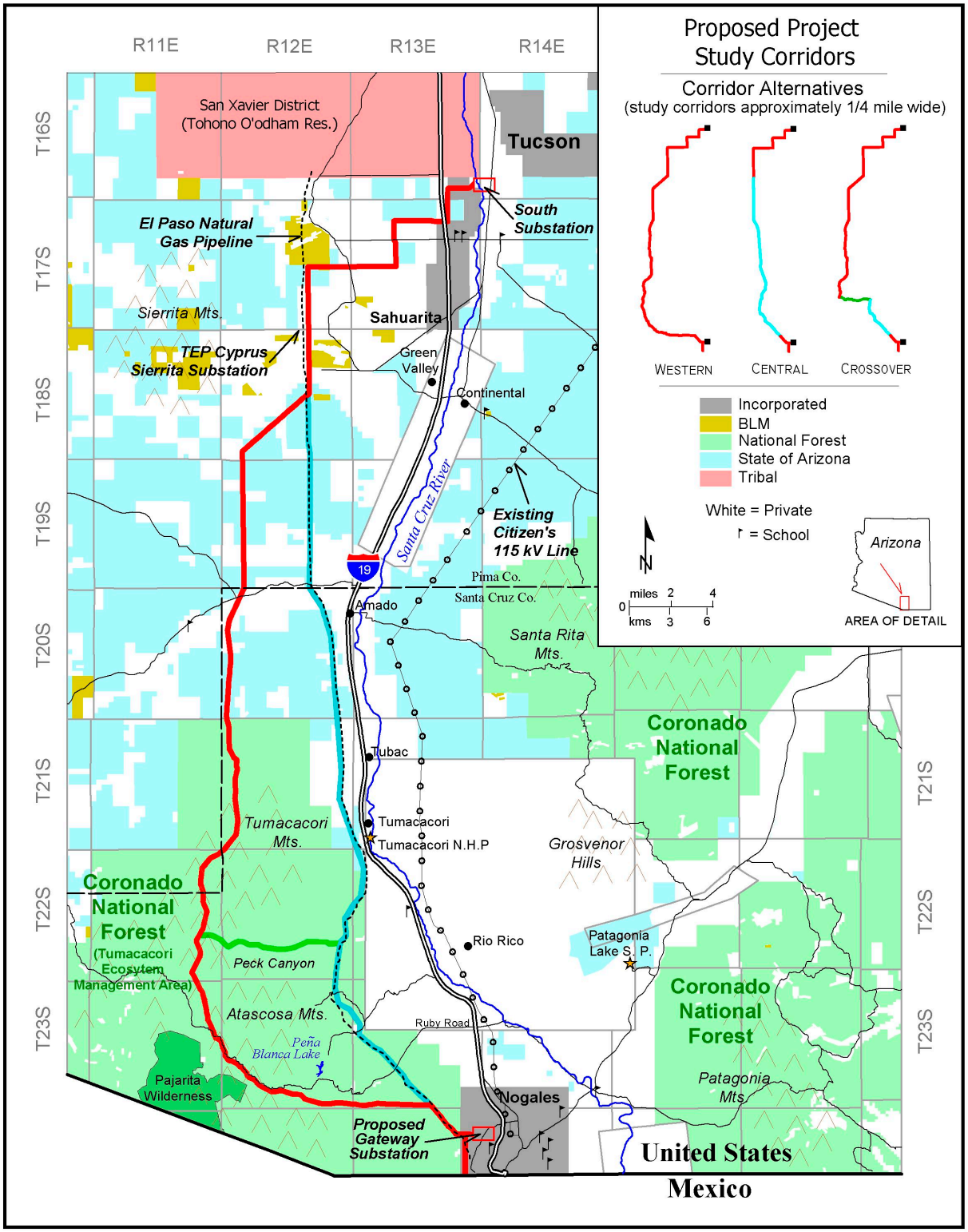

Figure S–2. Proposed Project Study Corridors.

southwest of Sahuarita on private land. The fiber-optic regeneration site would consist of an approximately 0.5-acre (0.2-ha) fenced yard, containing a 10 by 20 ft (3 by 6 m) concrete pad with an equipment house. The cleared area for the equipment house would be an estimated 20 by 30 ft (6 by 9 m). The proposed fiber optic wires would contain at least 48 fibers each.

Three 3-acre (1.2-ha) construction staging areas (located near the South and Gateway Substations, and the Interstate 19 [I-19]/Arivaca Road interchange) and an 80-acre (32-ha) temporary laydown yard (also near the I-19/Arivaca Road interchange) would be the same for each of the three proposed corridors.

The primary support structures to be used for the transmission line would be self-weathering steel single poles, or monopoles, depicted in Figure S–3. Dulled, galvanized steel lattice towers depicted in Figure S–4 would be used in specific locations for engineering reasons or to minimize overall environmental impacts (for example, impacts to soils or potential archaeological sites) in accordance with ACC Decision No. 64356.

There is an existing El Paso Natural Gas Company (EPNG) buried pipeline within the project area, and segments of each of TEP's three proposed corridors either cross the pipeline ROW, run immediately adjacent to the pipeline ROW, or are roughly parallel to the pipeline ROW within a distance of approximately 0.5 mi (0.8 km). This EIS uses the term "follows or crosses" to describe the relationship between each corridor and the EPNG pipeline ROW.

The following is a description of each proposed corridor. A comparison of the proposed alternatives is presented in Table S-1 at the end of this summary.

Western Corridor. The Western Corridor, DOE's and TEP's Preferred Alternative, is the western-most alternative connecting Sahuarita to the U.S.-Mexico border. The Western Corridor extends for an estimated 65.7 mi (105 km), including an estimated 9.3 mi (15.0 km) that follows or crosses the EPNG pipeline ROW. The estimated length of the Western Corridor within the Coronado National Forest is 29.5 mi (47.5 km). The estimated length of the Western Corridor on lands managed by BLM is 1.25 mi (2.01 km).

The Western Corridor would require an estimated 429 support structures (monopoles or lattice towers), including 191 within the Coronado National Forest and 8 on BLM land. Table S-1 lists the estimated areas of land that would be occupied by structures and structure construction sites. TEP would use existing utility maintenance roads, ranch access roads, and, where no access currently exist, new access ways. Approximately 20 mi (32 km) of new temporary roads would be built for construction of the Western Corridor on the Coronado National Forest; spur roads off existing access roads to adjacent TEP transmission lines would provide project access on BLM land.

Transmission line tensioning and pulling and fiber-optic splicing sites would also temporarily disturb land. These sites would range from 0.5 to 1.5 acres (0.2 to 0.6 ha). There would be an estimated 12 sites outside of national forest lands occupying a total of 18 acres (7 ha), and an estimated 14 sites on the Coronado National Forest occupying a total of 10.5 acres (4.2 ha). The total new temporary area of disturbance on the Coronado National Forest during construction of the Western Corridor would be an estimated 197 acres (79.7 ha).

Following construction, TEP would close roads not required for project maintenance and would limit access to maintenance roads, in accordance with agreements with land owners or managers (for example, BLM or USFS). On national forest land, the proposed project would not affect the existing road density because TEP is currently working with USFS to identify existing roads for closure, such that 1.0 mi (1.6 km) of existing road would be closed for every 1.0 mi (1.6 km) of proposed road to be used for project maintenance. The maintenance access required by TEP would be limited to roads leading to

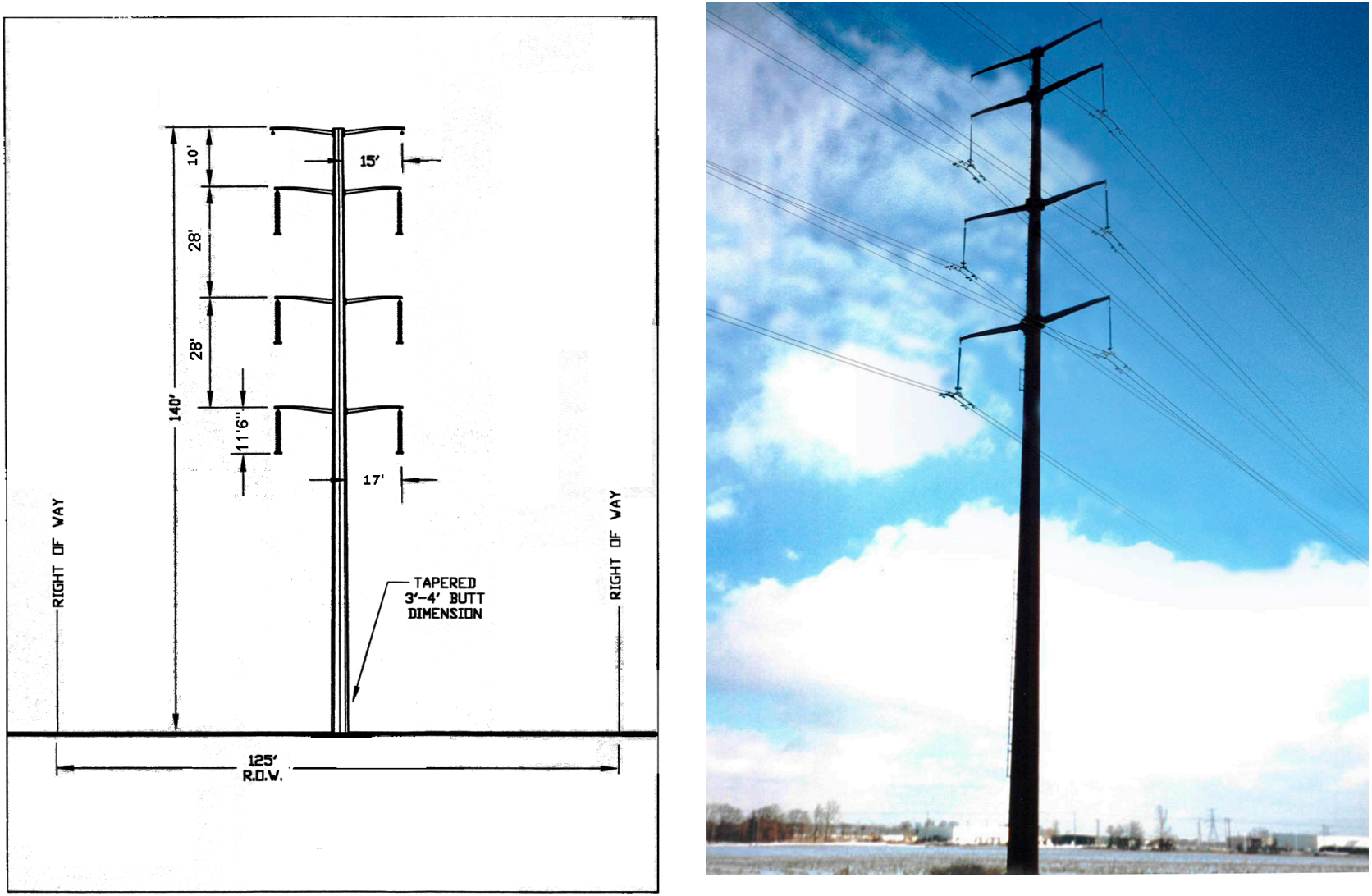

Figure S–3. Monopole Transmission Line Structure Drawing and Photo.

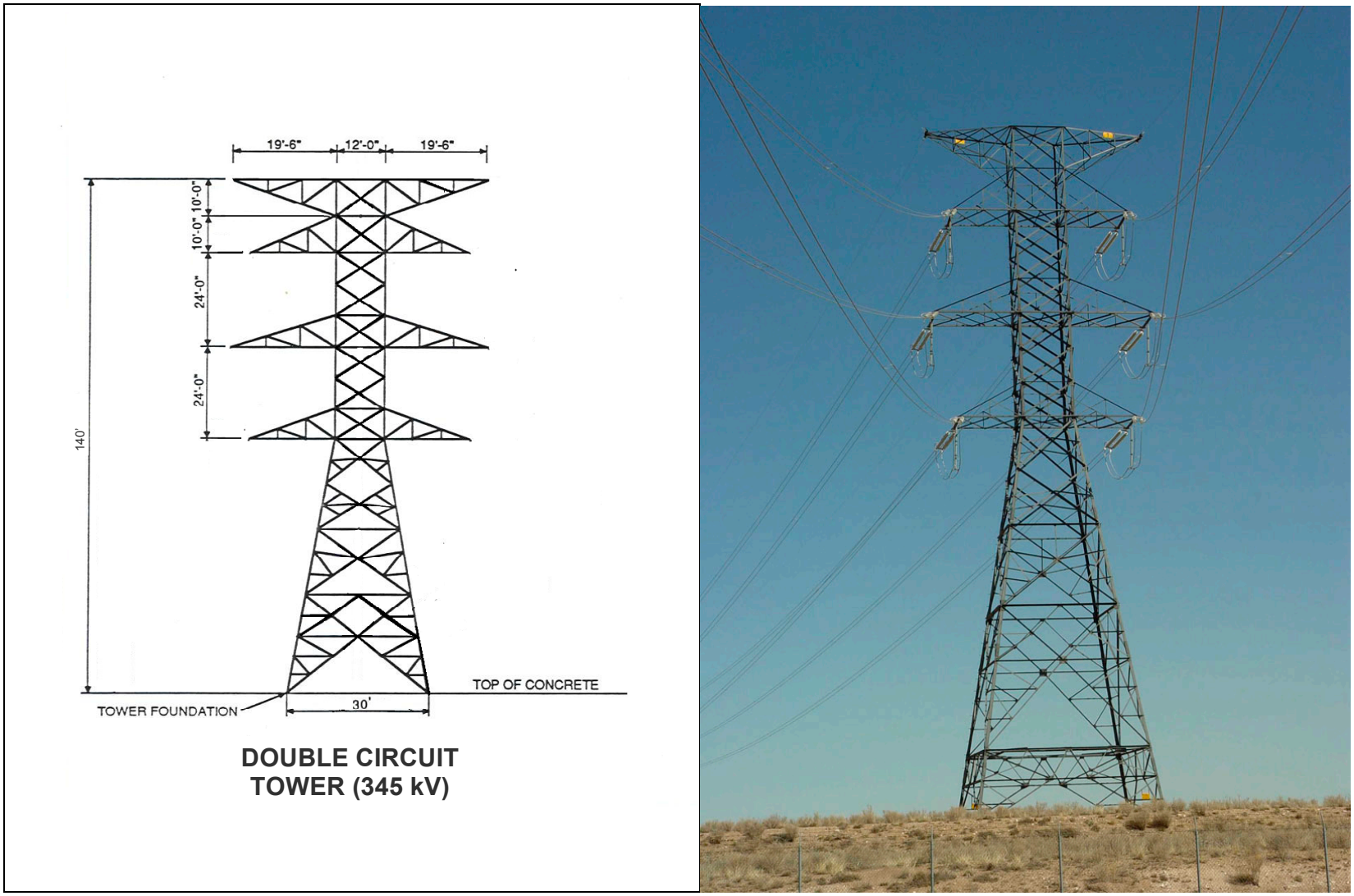

Figure S–4. Lattice Tower Transmission Line Structure Drawing and Photo.

selected structures. There would not be a single cleared ROW leading to the U.S.-Mexico border. Transmission line tensioning and pulling sites, fiber-optic splicing sites, and construction yard areas would be cleared within 6 months of the project becoming fully operational and the areas would be restored in accordance with agreements with land owners or managers.

The Western Corridor, together with the Central and Crossover Corridors, exits the TEP South Substation located within the incorporated area of the Town of Sahuarita and proceeds westerly for 1.0 mi (1.6 km) before turning south for 1.5 mi (2.4 km). The corridor turns west across I-19 and continues through Pima County to the southwest, crossing an estimated 1.25 mi (2.01 km) of Federal lands managed by BLM parallel to two existing TEP transmission lines (138-kV and 345-kV). All corridors turn south and follow on the east side of the EPNG pipeline ROW for an estimated 5.8 mi (9.3 km), passing just east of the existing TEP Cyprus Sierrita Substation.

The Western and Crossover Corridors continue south past the Cyprus Sierrita Substation, then separate from the Central Corridor, continuing southwest and south and enter Santa Cruz County after approximately 10 mi (16 km). The Western and Crossover Corridors enter the Coronado National Forest 6.0 mi (9.7 km) south of the Santa Cruz County line. Where the Crossover Corridor turns east at Peck Canyon, the Western Corridor continues south along the west side of the Tumacacori and Atascosa Mountains, then meets and runs along the south side of Ruby Road as it turns gradually east, north of the Pajarita Wilderness. The Western Corridor continues south of Ruby Road then meets the EPNG gas pipeline ROW and the Central and Crossover Corridors.

The Western Corridor, together with the Central and Crossover Corridors, continues through the national forest land, paralleling the EPNG pipeline ROW to the southeast for several miles to the Coronado National Forest boundary. The proposed corridors exit the national forest land onto private land and proceed 0.5 mi (0.8 km) east to the proposed Gateway Substation. From the Gateway Substation, the proposed corridors return to the west through private land then turn south to parallel the Coronado National Forest boundary. The proposed corridors meet the U.S.-Mexico border approximately 3,300 ft (1,006 m) west of Arizona State Highway 189 in Nogales, Arizona.

Central Corridor. The Central Corridor overlaps the northern portion of the Western Corridor from Sahuarita for approximately 18 mi (29 km), then continues south parallel to the EPNG pipeline ROW, connecting Sahuarita to the U.S.-Mexico border. The Central Corridor extends for an estimated 57.1 mi (91.9 km), including an estimated 43.2 mi (69.5 km) that follows or crosses the EPNG pipeline ROW. The estimated length of the Central Corridor within the Coronado National Forest is 15.1 mi (24.8 km). The estimated length of the Central Corridor on lands managed by BLM is 1.25 mi (2.01 km).

The Central Corridor would require an estimated 373 support structures, including 102 within the Coronado National Forest and 8 on BLM land. Table S–1 lists the estimated areas of land that would be displaced by structures and structure construction sites. TEP would use existing access where feasible as described for the Western Corridor. An estimated 13.8 mi (22.2 km) of temporary new roads would be built for construction of the Central Corridor on the Coronado National Forest; spur roads off existing access roads to adjacent TEP transmission lines would provide project access on BLM land. Transmission line tensioning and pulling and fiber-optic splicing sites would also temporarily disturb land. These sites would range from 0.5 to 1.5 acres (0.2 to 0.6 ha). There would be an estimated 14 sites outside of national forest lands occupying a total of 21 acres (8.5 ha), and an estimated 7 sites on the Coronado National Forest occupying a total of 3.3 acres (1.3 ha). The total new temporary area of disturbance on the Coronado National Forest during construction of the Central Corridor would be an estimated 105 acres (42.5 ha).

Following construction, TEP would close new roads, construction areas, and existing roads not required for project maintenance, in accordance with agreements with land owners or managers, as described for the Western Corridor. Transmission line tensioning and pulling sites, fiber-optic splicing sites, and construction yard areas would be cleared within 6 months of the project becoming fully operational and the areas would be restored in accordance with agreements with land owners or managers.

The Central Corridor follows the same route as the Western and Crossover Corridors from the South Substation in Sahuarita to approximately 3 mi (4.8 km) south of the existing TEP Cyprus Sierrita Substation. Refer to the previous discussion of the Western Corridor for a description of this common segment. The Central Corridor separates from the Western and Crossover Corridors south of the TEP Cyprus Sierrita Substation, continuing to follow or cross the EPNG pipeline ROW to the south.

The Central Corridor approaches to within approximately 1.0 mi (1.6 km) west of I-19, passing Amado, Tubac, and Tumacacori. The Central Corridor continues approximately 2.0 mi (3.2 km) south of Tumacacori then enters the Coronado National Forest, following the EPNG pipeline ROW. The Central Corridor centerline is an estimated 0.5 mi (0.8 km) from the EPNG pipeline ROW for an estimated 1.9 mi (3.1 km) and avoids the USFS inventoried roadless area (IRA). The Central Corridor passes along the eastern edge of the Tumacacori and Atascosa Mountains, crosses Ruby Road, and reaches a point northwest of the proposed Gateway Substation where it rejoins the Western Corridor (see Figure S–2).

The Central Corridor is identical to the Western Corridor from the point where they join in the Coronado National Forest to the Gateway Substation and the U.S.-Mexico border. Refer to the previous discussion of the Western Corridor for a description of this common segment.

Crossover Corridor. The Crossover Corridor overlaps the northern portion of the Western Corridor from Sahuarita into the Coronado National Forest, then turns east through Peck Canyon for an estimated 7 mi (11.3 km) to meet up with the Central Corridor. The Crossover Corridor is identical to the Central Corridor from the point they rejoin in the Coronado National Forest to the proposed Gateway Substation and the U.S.-Mexico border. Refer to previous discussion of the Western Corridor for a discussion of this common segment. The Crossover Corridor extends for an estimated 65.2 mi (105 km), from the South Substation to the U.S.-Mexico border, including an estimated 17 mi (27.4 km) that follows or crosses the EPNG pipeline ROW. The estimated length of the Crossover Corridor within the Coronado National Forest is 29.3 mi (47.2 km). The estimated length of the Crossover Corridor on lands managed by BLM is 1.25 mi (2.01 km).

The Crossover Corridor would require an estimated 431 support structures, including 196 within the Coronado National Forest and 8 on BLM land. Table S–1 lists the estimated areas of land that would be displaced by structures and structure construction sites. TEP would use existing access where feasible as described for the Western Corridor. An estimated 20.7 mi (33.3 km) of temporary new roads would be built for construction of the Crossover Corridor on the Coronado National Forest; spur roads off existing access roads to adjacent TEP transmission lines would provide project access on BLM land. These sites and fiber-optic splicing sites would also temporarily disturb land. These sites would range from 0.5 to 1.5 acres (0.2 to 0.6 ha). There would be an estimated 12 sites outside of national forest lands occupying a total of 18 acres (7 ha), and an estimated 12 sites on the Coronado National Forest occupying a total of 7.6 acres (3.1 ha). The total new temporary area of disturbance on the Coronado National Forest during construction of the Crossover Corridor would be an estimated 238 acres (96.3 ha).

Following construction, TEP would close new roads, construction areas, and existing roads not required for project maintenance, in accordance with agreements with land owners or managers, as described for the Western Corridor. Transmission line tensioning and pulling sites, fiber-optic splicing sites, and construction yard areas would be cleared within 6 months of the project becoming fully operational and the areas would be restored in accordance with agreements with land owners or managers.

No Action Alternative. CEQ regulations require that an agency "include the alternative of no action" as one of the alternatives it considers (40 CFR 1502.14[d]). In the context of this EIS, "no action" means that TEP's proposed transmission line is not built. For DOE and the cooperating agencies, "no action" would be achieved by any one of the Federal agencies declining to grant TEP permission to build in the agency's respective jurisdiction. Thus, in the case of DOE, "no action" means denying the Presidential Permit; for USFS, "no action" means denying the special use permit; for BLM, "no action" means denying access to BLM-managed Federal lands; and for USIBWC, "no action" means not approving construction plans. Each agency makes its own decision independently, so that it is possible that one or more agencies could grant permission for the proposal while another could deny permission. Thus, if any agency denied permission for the proposed transmission line, it would not be built.

APPLICANT'S PURPOSE AND NEED

TEP has provided the following purpose and need for the proposed project:

> TEP believes that the proposed project would have the potential to benefit both southern Arizona and northern Mexico with regard to the availability of electric power. TEP is responding to the need to improve transmission of electric power into the southern Arizona region and to assist Citizens (Communications Company) in meeting an ACC mandate that Citizens build a second transmission line to serve its customers in Santa Cruz County by December 31, 2003 (ACC Decision No. 62011). Citizens is a community-based telecommunications provider serving nearly one million customers across the nation.
>
> TEP signed a contractual agreement with Citizens to assist in responding to the ACC mandate that Citizens build a second transmission line to serve its customers in Santa Cruz County. Following this, TEP and Citizens applied jointly to the ACC for a Certificate of Environmental Compatibility (CEC) on March 1, 2001. On January 15, 2002, the ACC granted a CEC to TEP and Citizens to construct the proposed project in the Western Corridor, in accordance with listed mitigation provisions (ACC Decision No. 64356). TEP and Citizens will, if necessary, return to the ACC to request an extension of the original December 2003 in-service deadline. If TEP and Citizens do not meet the deadline, and the ACC does not grant an extension, TEP and Citizens would be in violation of an ACC order, and there may be monetary penalties associated with violating that order.
>
> While each circuit is thermally capable of transmitting 1,000 MW, the double circuit system has been designed and would be operated to transmit 500 MW total, for operational and reliability considerations. TEP reached agreement with Citizens to provide up to 100 MW of transmission capacity from Tucson to Nogales, Arizona. This would allow Citizens to improve reliability of electric service to its customers in Santa Cruz County. The proposed TEP 345-kV transmission line would provide a redundant path for the energy that is currently transmitted over the Citizens 115-kV transmission line from Tucson to Nogales, Arizona. Citizens committed to the purchase of 100 MW of transmission capacity from TEP to allow for future load growth above Citizen's current Santa Cruz County load of approximately 65 MW. Once TEP's proposed 345-kV transmission line is in-service, Citizens would be able to make some needed upgrades to its existing 115-kV transmission line that would allow it to achieve a capacity of 100 MW, thus allowing either line to serve Citizens' load for the foreseeable future.
>
> TEP anticipates using the remaining 400 MW of capability for transport of energy between the United States and Mexico. Typically an electricity producer like TEP generates and sells its own electricity using its own transmission system. However, if DOE should decide to grant a Presidential Permit to TEP, it would include a condition in the permit requiring TEP to provide non-discriminatory open access transmission service on the subject international facilities. Open